

MARITIME HERITAGE MINNESOTA

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Minnesota Suburban Lakes Survey Project: Lake Elmo Survey Report



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Front Cover: Newsom 1881; Ingersoll, ND. Digitized by MHM.

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Introduction

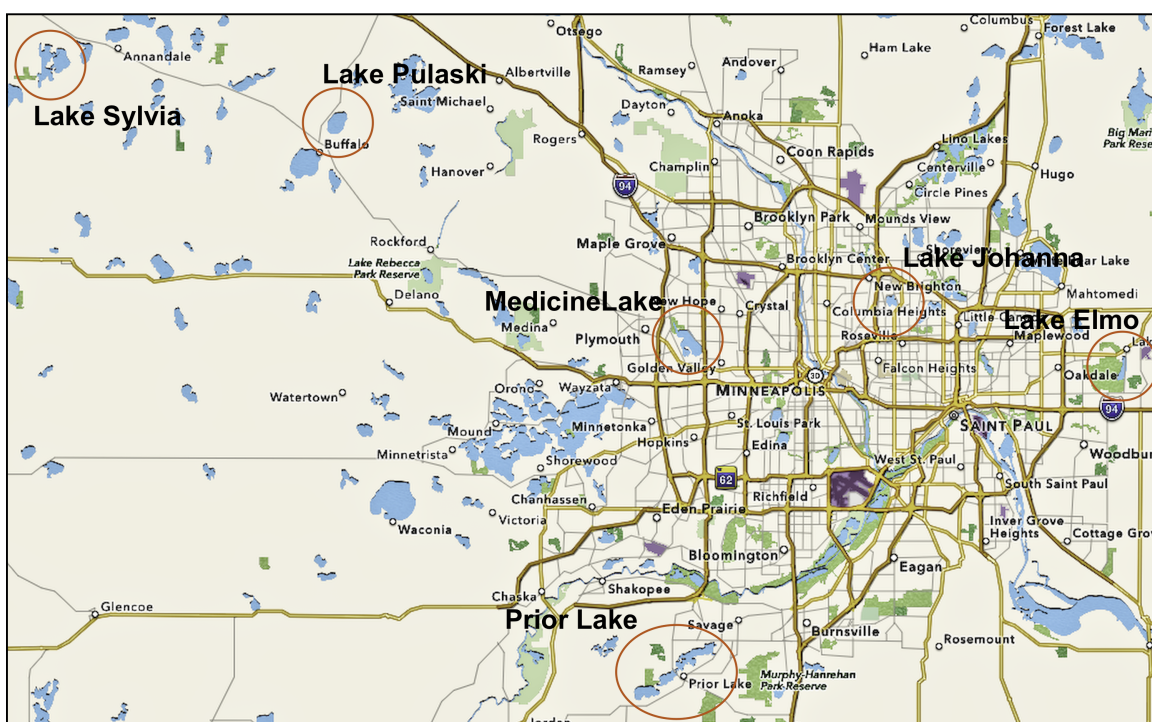
Wrecks and the artifacts associated with them tell a story. Removing or otherwise disturbing artifacts, treating them as commodities that can be sold, obliterates that story. Nautical archaeological and maritime sites are finite, and are significant submerged cultural resources. Nautical, maritime, underwater, maritime terrestrial – Maritime Heritage Minnesota's (MHM) deals with all of these types of sites throughout the State of Minnesota. MHM's Mission is to document, conserve, preserve, and when necessary, excavate these finite cultural resources where the welfare of the artifact is paramount. MHM is concerned with protecting our underwater and maritime sites – our shared Maritime History – for their own benefit in order for all Minnesotans to gain the knowledge that can be obtained through their study. MHM's study of wrecks does not include the removal of artifacts or damaging the sites in any way. MHM does not raise wrecks or 'hunt' for 'treasure'. Submerged archaeological sites in Minnesota are subject to the same State statutes as terrestrial sites: the Minnesota Field Archaeology Act (1963), Minnesota Historic Sites Act (1965), the Minnesota Historic District Act (1971), and the Minnesota Private Cemeteries Act (1976) if human remains are associated with a submerged site. Further, the case of *State v. Bollenbach* (1954) and the Federal Abandoned Shipwrecks Act of 1987 provide additional jurisdictional considerations when determining State oversight and "ownership" of resources defined by law as archaeological sites (Marken, Ollendorf, Nunnally, and Anfinson 1997, 3-4). Therefore, just like terrestrial archaeologists working for the State or with contract firms, underwater archaeologists are required to have the necessary education, appropriate credentials, and hold valid licenses from the Office of the State Archaeologist (OSA).



MHM's dive crew preparing to dive on an anomaly in Lake Minnetonka (by Mark Slick)

Preface

MHM completed remote sensing side and down imaging surveys of sections of the Headwaters Mississippi River and the Minnesota River in 2010 and 2011. MHM completed the first comprehensive sonar surveys of any Minnesota lake in 2011-2012 with the thorough investigations of Lake Minnetonka (14,528 acres), White Bear Lake (2,416 acres), and Lake Waconia (3,080 acres). The study – that is still ongoing – of these three larger lakes provided MHM the opportunity to hone the research methods and data interpretation that allowed the completion of 6 different archaeological analyses during the Minnesota Suburban Lakes Survey Project (MSLS). Lake Elmo (LE, 206 acres), Lake Johanna (LJ, 213 acres), Lake Pulaski (LP, 702 acres), Lake Sylvia (LS, 1,524 acres), Medicine Lake (ML, 886 acres), and Upper and Lower Prior Lake (PL, 1,238 acres) were chosen for study, and the fieldwork was conducted from mid-September to early October 2016. MHM prepared six project reports, one for each lake documented using sonar.

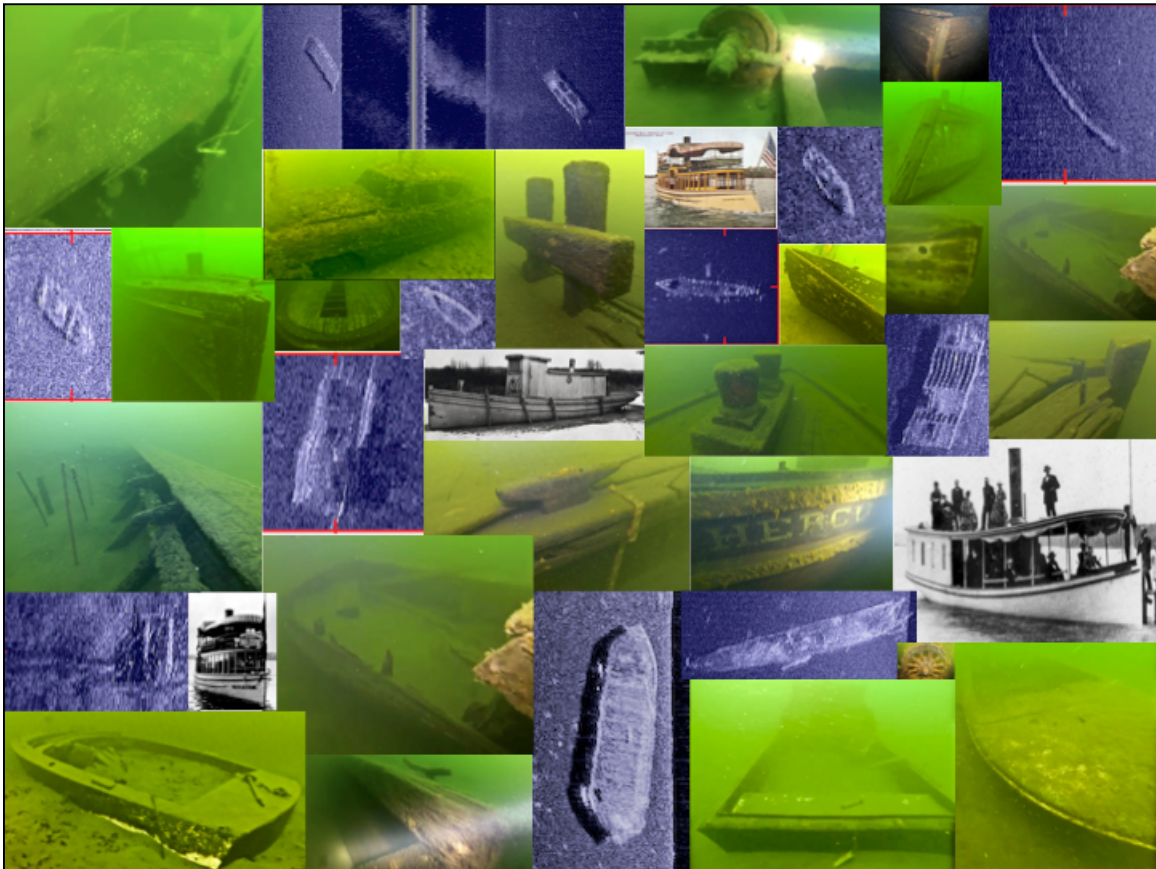


The locations of the 6 lakes surveyed during the MSLS Project.

Research Design

The MSLS Project is a pre-disturbance Phase 1 underwater archaeological side and down imaging sonar survey of 6 lakes (mentioned above) in 5 counties – Hennepin, Ramsey, Scott, Washington, and Wright. This project is a primary step toward the identification and documentation of submerged cultural resources in Minnesota. MHM

chose the six lakes mentioned above for the MSLS Project. The purpose of the MSLS Project is to increase the collective maritime archaeological and historical knowledge of Minnesotans through the documentation of the 6 suburban lakes. The specific goal of sonar survey is the recording of anomalies on the lake bottoms and identifying their possible natures. The side and down-imaging sonar unit creates high-resolution digital images; the sonar data accumulated during the fieldwork will be reviewed and analyzed with the intention of identifying anomalies that may be human-made sites such as wrecks (dugout canoes, steamers, sailboats, rowboats, canoes, barges, motorboats), maritime infrastructure (pier/dock remains, water intakes), other maritime-related artifacts (steam boilers, fish houses), vehicles (cars, trucks, snowmobiles), and other objects. In the future, the positive identification – and significance – of the anomalies will be confirmed through underwater archaeological reconnaissance fieldwork using SCUBA, digital video, measured drawings, and maritime historical research. The 6 lakes chosen for evaluation and assessment during the MSLS Project were chosen for the MSLS Project because of their size, location, and the confirmed maritime activities occurring on and around them, determined by graphic and preliminary historical research.



A sampling of nautical archaeological and underwater sites MHM has investigated and identified in Lake Minnetonka. Similar wrecks may be recorded by the sonar unit during the MSLS Project (photos by MHM volunteers Kelly Nehowig, Ed Nelson, and Mark Slick; sonar images recorded by MHM).

The combined area of the 6 lakes is 4,769 acres. All of the project lakes are under 1,600 acres, with 4 of them under 900 acres and 2 of them under 300 acres. The size of the target lakes for the MSLS Project is significant because until now, no nautical, maritime, or underwater archaeological or historical research has been conducted in what is considered a 'smaller' lake in Minnesota. MHM chose these particular smaller lakes because, like Lake Minnetonka, Lake Waconia, and White Bear Lake, they are located outside of the Twin Cities proper, but are suburban and close enough to Minneapolis and St. Paul for day or weekend trips by lake-bound Minnesotans even in the late 19th Century. Historically, these lakes had holiday resorts on their shores that allowed local residents and visitors to use them as vacation destinations. The resorts often had fleets of sailing and rowing boats for use by their guests, and in some cases, steam launches, larger boats, and personal motorboats. Furthermore, local residents used these lakes for efficient daily transportation. Therefore, maritime activities – boat transportation and recreation that required maritime infrastructure and a terrestrial transportation system (horses, streetcars, railroads, roads, cars) to function – are comparable to Lakes Minnetonka, Waconia, and White Bear on a smaller scale. The MSLS Project will be the first systematic and comprehensive remote sensing survey of a group of smaller suburban lakes that share traits with the well-known larger suburban lakes already surveyed. With this in mind, the process of recording, locating, and identifying anomalies that may be submerged cultural resources that will ultimately be investigated archaeologically using SCUBA is even more important – the maritime history and nautical/maritime/underwater archaeology of these 6 lakes are unknowns. The data collected during the MSLS Project is the first step in the process to determine the extent of submerged cultural resources located on the bottoms of these 6 suburban lakes.

Methodology

A side and down imaging remote sensing sonar survey conducted on a lake is akin to 'mowing the lawn' – transects are run either north/south or east/west depending on wind conditions, lake traffic, and the placement of obstructions such as islands, sandbars, shallow areas, docks, and piers. The length and duration of each transect cannot be known until the day of the survey and is dependent on water depth, and the presence of weeds, islands, docks, and other boats. Ideally, each transect runs north/south or east/west for orderly data analysis, but diagonal transects are often required because lakes are usually not large open squares. The GPS data received by the sonar unit's antenna is imbedded in the recording produced of each transect; this feature allows accurate and efficient anomaly location by determining its latitude and longitude. Many anomalies remain unidentified until their nature can be determined by dive reconnaissance. However, the basic nature of some anomalies can be determined by sonar data analysis with specific questions about the site or object answered using dive reconnaissance.



'Mowing the Lawn' at Lake Pulaski in 2016. Similar side and down imaging sonar survey transects were run on Prior Lake, Lake Elmo, Lake Johanna, Medicine Lake, and Lake Sylvia.

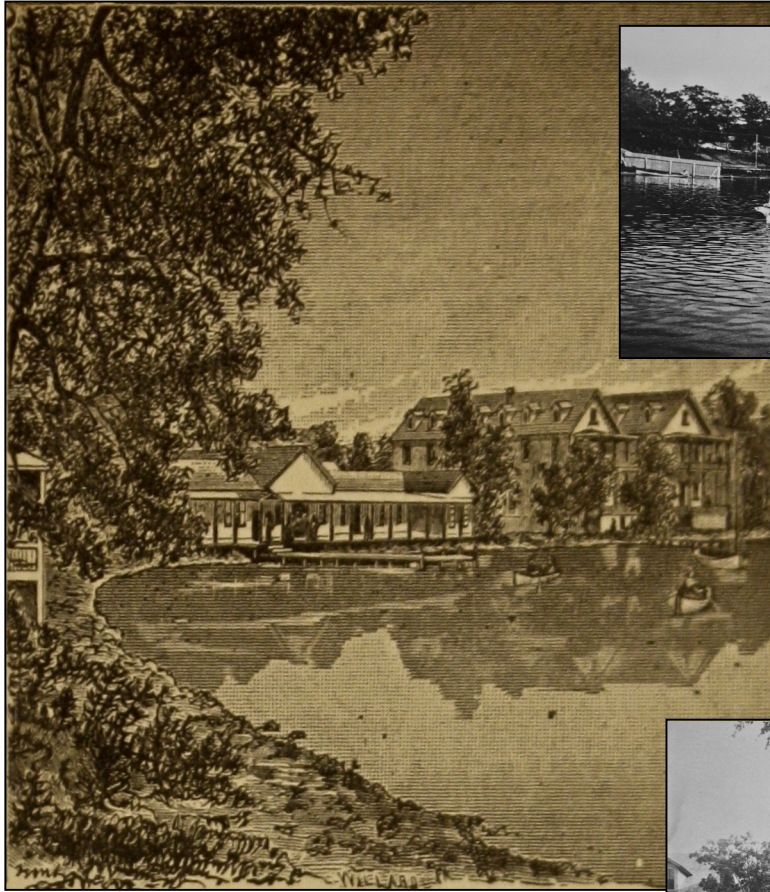
Results of the Minnesota Suburban Lakes Project Lake Elmo

Archaeology and History

Lake Elmo, the body of water and the town, are located northeast of St. Paul in Washington County. Known archaeological sites and evidence on or near the lakeshore are sparse. However, there is a recognized Woodland Period burial mound (21-WA-51) about 1.25 miles to the north of the lake. Two other small sites (21-WA-117, 21-WA-118) on the southeast side of Lake Elmo were located using shovel testing. The artifacts from these sites, a few worked stone fragments and 2 corded pot sherds, have not been dated. Prior to 1878 Lake Elmo was known as Bass Lake. The St. Paul, Stillwater & Taylors Falls Railroad station was about 300 feet from the lake. The station contained a post office and received 5 trains from St. Paul daily, providing efficient transportation for lake and village dwellers (Arzigian and Stevenson 2003, 519; Ledezma, Picka, and Salas 2016a, 2016b; *St. Paul Daily Globe* 1878).

Lodge/Hotel/Club House. The St. Paul, Stillwater & Taylors Falls Railroad owned 100 acres of land on and near the lake. Forty acres of the land was set aside as “a park and pleasure grounds” while the other 60 acres were intended to be “a resort which gives us a first-class summer residence”. By 1878 the Elmo Lodge, a 40-room hotel with a detached kitchen and dining hall, stood on the lakeshore. Other amenities offered by the hotel include “a refreshment stand, bowling alley, shooting gallery and billiard room, the whole having a broad piazza...fronting directly upon the lake”. Other amusements for lodge guests included croquet, lawn tennis, swings, and archery. Beyond the main lodge, the “Bachelor’s Lodge” had 10 rental rooms for individual men vacationing at the lake, and there was a two-roomed cottage for families. The green space near the lodge – open to guests and the general public – accommodated a bandstand with concessions, a dance pavilion, and a series of ‘gymnastics’ equipment that included rings, trapeze bars, ladders, swings, and a whirligig swing. By mid-1879, Elmo Lodge was boasting it had 150 acres of land for use by guests, along with new furniture, Wednesday concerts by the Great Western Band, and above all: ELECTRIC LIGHT. In subsequent years, Elmo Lodge advertised their amenities – including bathhouses – and band concerts to day-trippers, stressing that the round-trip fare from St. Paul and Lake Elmo was 50 cents. Repeatedly the lodge’s electric lights were pushed as an asset that must not be missed (*St. Paul Daily Globe* 1878, 1879, 1880).

In 1886 the lodge became the “newly decorated, newly furnished and supplied with all modern improvements” Elmo Park Hotel, described “as a strictly first-class family hotel”. The large grounds were privatized and ‘family-friendly’ activities were meant to attract St. Paul families who prefer “a quiet reposeful life”. A costume ball was held at the hotel, with Seibert’s Orchestra providing the music. The hotel was used as a selling point for the Elmo Park Company, a conglomerate that purchased 750 acres of lakeshore and nearby land to construct ‘Elmo Residence Park’, in order to attract buyers. Ultimately, a fire that began in the hotel dining hall’s attic, fed and spread by high winds, engulfed the establishment and its associated buildings on July 10, 1890. Sixty guests escaped unharmed, but lost their belongings (*St. Paul Daily Globe* 1886, 1887, 1888, 1890b).



Above: Rowboats and water fun at the Elmo Park Hotel (MNHS MW4.9LEp11, digitized by MHM).

Left: A view of the Elmo Lodge in 1881 (Newson 1881, digitized by MHM).

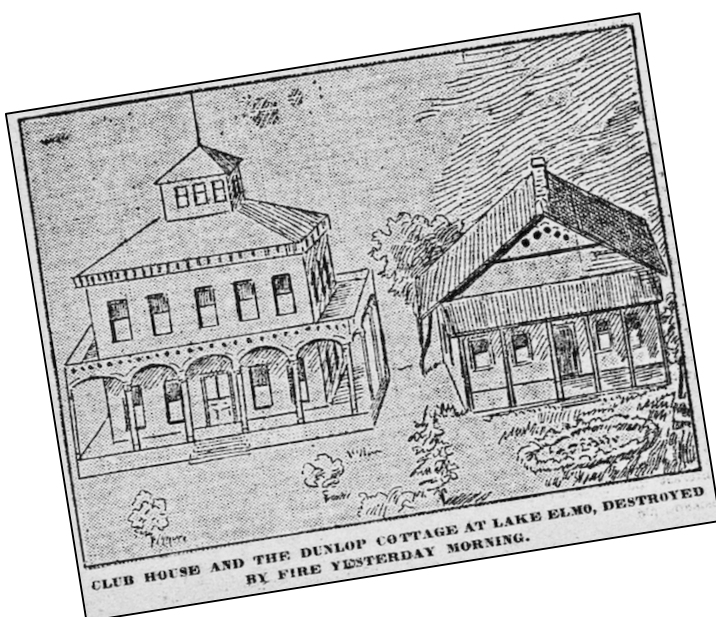


Above: Elmo Park Hotel in the 1890s (Ingersoll 1881).



Left: The front cover of a picture book designed to spark interest in the Elmo Residence Park properties (Ingersoll 1881, digitized by MHM).

In May 1895, the Elmo Club House¹ opened, advertised to “parties wishing first-class accommodations will find this a very desirable resort” close to the city. St. Paul’s society page enumerated the different people heading to Lake Elmo for the summer months, including Governor Henry Sibley’s son and daughter-in-law who stayed at the Club House. Wedding parties, school faculties, groups of dancing young people, and cotillions called ‘germans’ – a type of group dance – utilized the Club House. The facility’s management offered Club House rooms and cottage accommodations “to parties with references”. During the afternoon of September 17, 1900, the Lake Elmo Club House was destroyed by fire along with the cottage next door. Ker D. Dunlop, the agent for the Iowa Land Company², occupied the cottage and lost his belongings to the fire. The fire started in the Club House kitchen; the two buildings and their contents were complete losses (*St. Paul Daily Globe* 1895a-c; *St. Paul Globe* 1900).



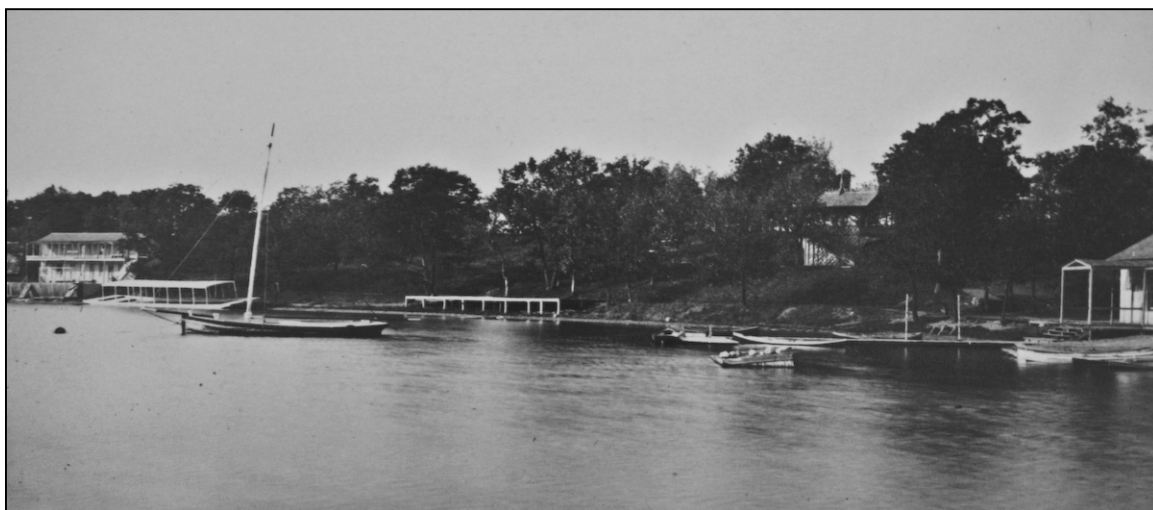
A sketch of the Elmo Club House and cottage prior to the September 1900 fire that destroyed both structures (*St. Paul Globe* 1900).

Boating and Fishing. Elmo Lodge provided 20 rowboats, 3 sailboats, a catamaran, and a 52-foot gondola for use by their guests. Fishing was a draw for lodge visitors looking to catch pickerel, bass, and perch. By mid-1879, the lodge had added “a fine steam yacht and pleasure barge” to their fleet of boats for guest’s use during their stay. The railroad company provided additional trains from Union Depot in St. Paul when evening boat races took place at Lake Elmo. When the lodge became the Elmo Park Hotel in 1886 the owners still offered “a fine fleet of boats” for the “excellent bass fishing”. Sailing regattas continued under the new hotel management, sometimes combined with a dance and sponsored by the St. Paul Boat Club. After the Elmo Park Hotel fire, its owners offered the establishment’s watercraft for use. “The docks were partially burned, but all the large fleet of boats except one craft was saved. The docks will be rebuilt at once, and the management will continue to accommodate fishing

¹The Elmo Club House was later referred to as the Lake Elmo Club House.

²The Iowa Land Company owned the Lake Elmo Club House.

parties with boats". Beginning in the 1890s, furnished cottages and houses were rented to tourists for the summer months, often with their own boats and icehouses. The Lake Elmo Club House offered "good boats and fishing; prices reasonable" for their boarders and day-trippers. Lake Elmo resident Herbert Buck detailed a day of ice fishing on February 25, 1906 in his diary. "Today Ray, Uncle Bob, Father and myself went down to the lake fishing. Ray and I left Uncle Bob and Father on the lake while we went down the creek to get some minnows for bait; when we came back we took one of the shears and went down the creek again. We got about 60 perch but Uncle Bob and Father did not get even a bite" (Buck 1906, 3; *St. Paul Daily Globe* 1878-1881, 1886, 1887b, 1890a-b, 1891, 1894; *St. Paul Globe* 1899).



A sailboat, barge, rowboats, and docks of the Elmo Park Hotel around 1890 (MNHS I.45.7, digitized by MHM).

Right: Dr. Walther's boathouse and rowboats on Lake Elmo around 1890 (MNHS I.45.2, digitized by MHM).



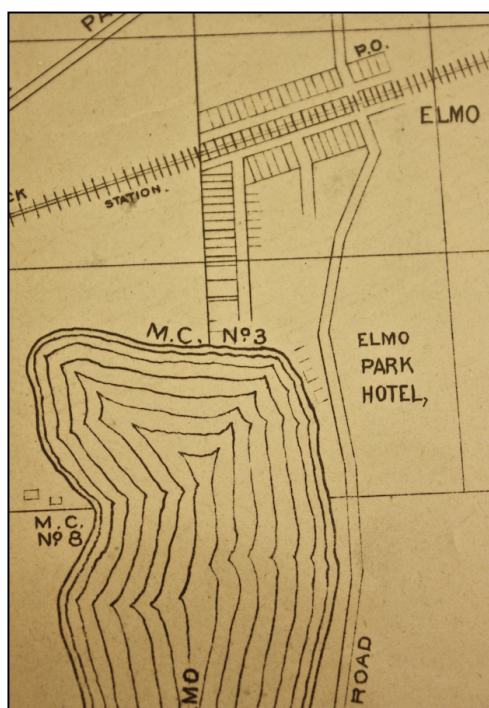
Left: Racing shells at the Elmo Park Hotel in the late 1880s (MNHS GV3.61Rp4, digitized by MHM).



Left: Ladies in a duck boat in the marshes and the covered dock at the Elmo Park Hotel (Ingersoll 1881, digitized by MHM)

Below: USGS Map, Lake Elmo. MHM's transects ran east to west during the sonar survey (Lake Elmo Quadrant).

Below: The northern section of Lake Elmo showing the location of the Elmo Park Hotel and its relation to the railroad in 1889 (MNHS G4144.L261889.6F, digitized by MHM).



Lake Elmo Sonar Survey Results

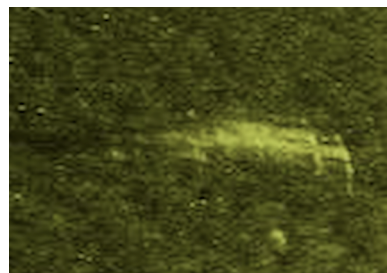
MHM has identified 23 anomalies in the sonar footage recorded during the remote sensing survey of Lake Elmo. MHM has determined that the acoustical signature of 1 anomaly suggests an overturned boat wreck with its framing visible along with a debris field (A3a-b). Anomaly 3 is one of the most intriguing anomalies recorded by MHM during the project. The data indicates 1 anomaly is a possible wreck (A17), 1 is a possible partially buried wreck with its futtocks exposed (A21), 1 is a probable barge or dock (A5), and 1 is a possible dock (A12). Anomaly 23 is a communication or telephone cable or power line crossing the lake bottom up to depths over 130 feet; this anomaly has not been prioritized. The anomalies below are in random order and the potential to provide significant nautical archaeological data are prioritized as High (1) or Low (2). These numbers will assist MHM when designing future nautical archaeological reconnaissance projects using SCUBA.



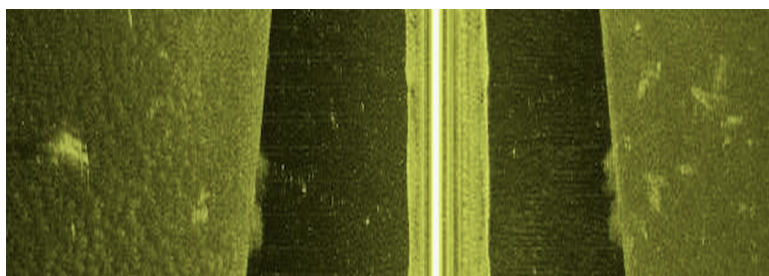
LE-A1 (2)



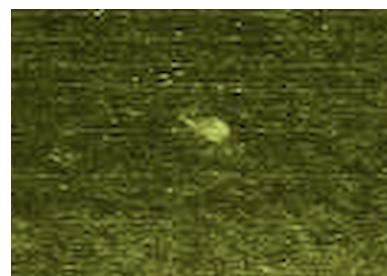
LE-A2 (1)



LE-A3a – Partially Buried Structure (1)



LE-A3a-b – Debris Field and Large Partially Buried Structure (1)



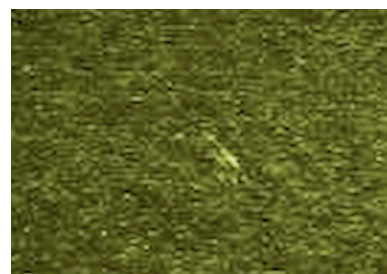
LE-A4 (2)



LE-A5 – Possible Barge or Dock (1)



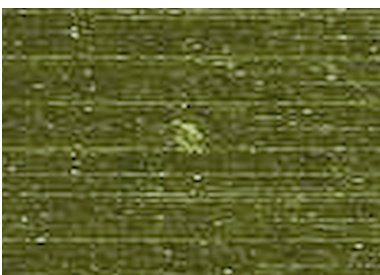
LE-A6 (2)



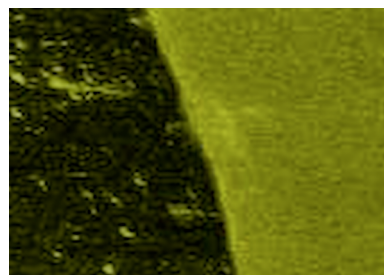
LE-A7 (2)



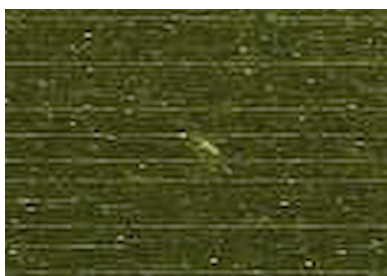
LE-A8 (2)



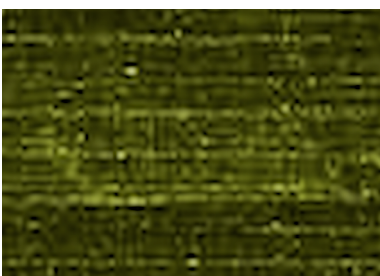
LE-A9 (2)



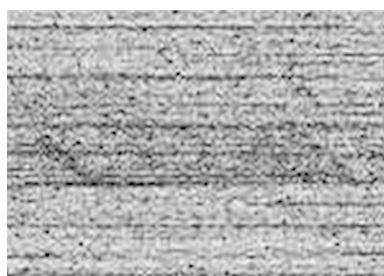
LE-A10 (1)



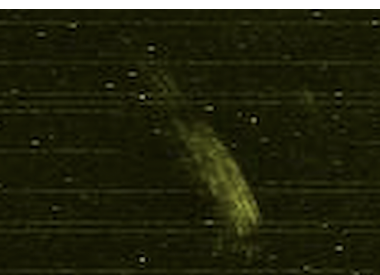
LE-A11 (2)



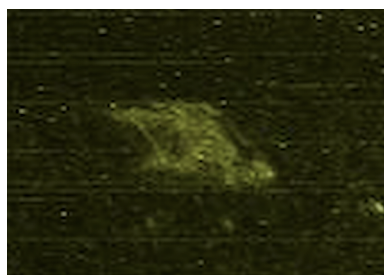
LE-A12 – Possible Dock (1)



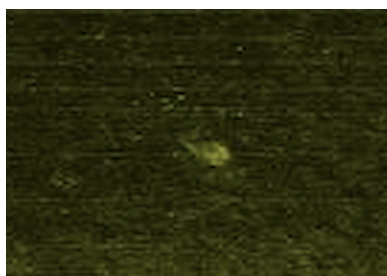
LE-A13 (2)



LE-A14 (1)



LE-A15 – Possible Boat Lift or Canopy (1)



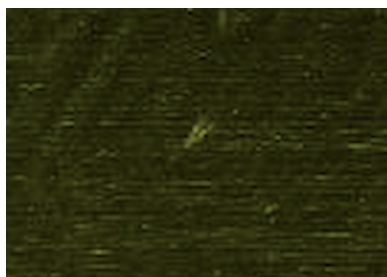
LE-A16 (1)



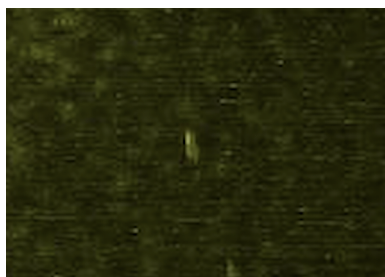
LE-A17 – Possible Wreck (1)



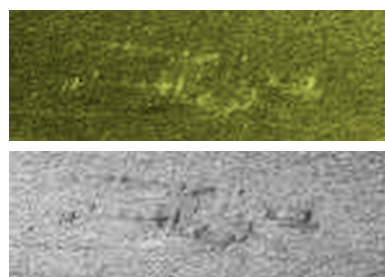
LE-A18 (2)



LE-A19 (1)



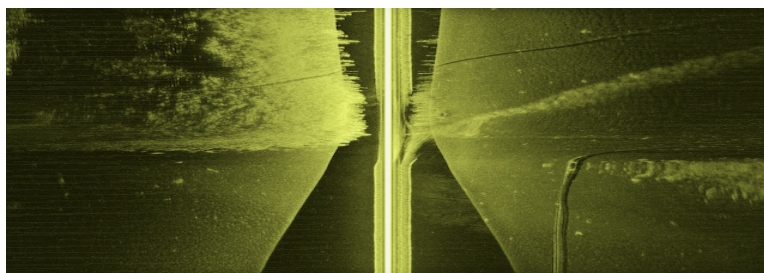
LE-A20 (2)



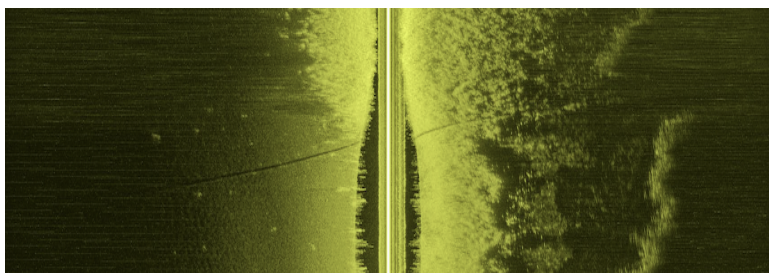
LE-A21 – Possible Partially Buried Wreck (1)



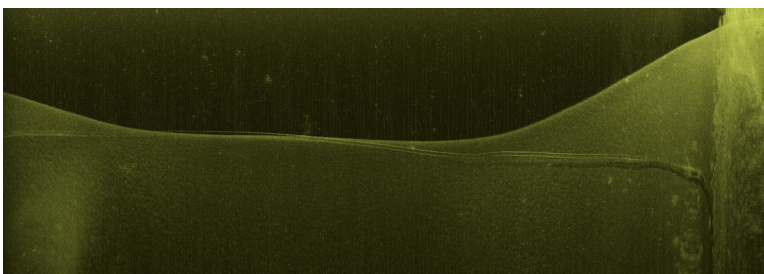
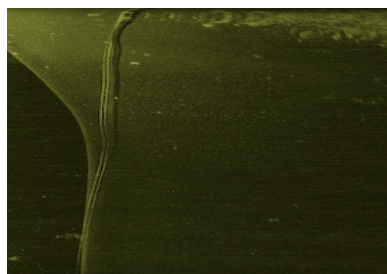
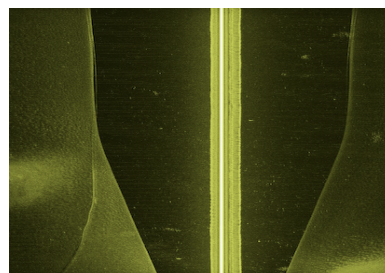
LE-A22 (2)



LE-A23 – Cable



LE-A23 – Cable



LE-A23 – Cable

Conclusion

During the Lake Elmo Sonar Survey, MHM recorded several interesting and promising anomalies using remote sensing side and down-imaging sonar. Of the 23 anomalies, A3a-b, A5, A12, A15, and A17 will produce the greatest amount of archaeological data. Anomaly 3 may be a unique site, with the associated debris field and distinctive signature of the larger structure. The MSLS Project produced interesting and significant results; MHM recognized 253 anomalies on the bottom of the 6 lakes documented during the surveys. Particularly important is the identification of 13 wrecks through their distinctive sonar signatures, another 22 possible wrecks, 6 poke nets,³ 5 boat lifts/canopies, and many other maritime sites. The exact nature of the wrecks and other sites will be determined during subsequent projects centered on their investigation by nautical archaeologists using SCUBA. These future studies will greatly enhance our shared maritime history through the recognition of submerged cultural resources and the stories behind their construction and disposition on the bottom of these particular 6 Minnesota lakes. The diversity of nautical, maritime, and underwater sites so far identified by MHM in Minnesota's lakes are tangible examples of the rich maritime history of the area. Through research, diving on wrecks and anomalies to collect pertinent data, and ensuring that the collected information is accessible by the public, MHM will continue to investigate Minnesota's submerged cultural resources into the future. The results of the MSLS Project summarized above is connected to all the work that will come after its completion. It is clear – even through this Phase 1 remote sensing survey – that the types of sites that exist in the 6 small lakes documented during the project are diverse, archaeologically and historically significant, and worthy of great attention.

³MHM has interpreted anomalies in Prior Lake, Lake Sylvia, Medicine Lake, and Lake Johanna as poke nets. Poke nets hang on poles under water and snag fish, and are well known in Scotland where they are placed in tidal zones.

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